Abstract of the Disclosure

Asynchronous Transfer Mode (ATM) data is transmitted in Available Bit Rate (ABR) service over a network path including a spacecraft. The spacecraft payload switches do not provide an indication of congestion, so conventional ABR feedback control using Resource Management cells is ineffective. In one avatar of the invention, the Network Control Center coacting with the spacecraft produces signals representative of congestion in services other than ATM ABR service, and these congestion signals are coupled to the terrestrial source terminal, where return or back Resource Management cells are modified with data derived from the congestion signals, to close a feedback loop including the source of ATM ABR signals, the source terminal, and the spacecraft. The feedback loop tends to maintain excess bandwidth in use for ABR purposes, and tends to prevent congestion. In another embodiment, congestion information derived from locations downstream of the spacecraft are coupled in the upstream direction, through the spacecraft, by way of return RM cells. The spacecraft congestion information is combined with the upstream RM cell information and flows to the source of ABR service ATM data.(180)